Patent Claims

1. Component of an internal combustion engine, including at least one area, which during operation of the internal combustion engine is higher thermally loaded than another area, thereby characterized, that the area with the higher thermal load (4) exhibits a lower thermal coefficient of expansion (α_2) then the area with the lower thermal load (5).

2. Component according to Claim 1, thereby characterized, that the area with the higher thermal load (4) has a modified alloy composition relative to the area with the lower thermal load (5).

3. Component according to Claim 2, thereby characterized, that the area with the higher thermal load (4) includes a ceramic material or an inter-metallic compound.

4. Component according to Claim 1, 2 or 3, thereby characterized, that it is comprised of an aluminum material.

5. Component according to one of Claims 1 through 4, thereby characterized, that the component is a cylinder head (1a).

6. Component according to Claim 5, thereby characterized, that the area with the higher thermal load (4) is an intermediate area (4a) located between respective valve bores (3).

7. Component according to one of Claims 1 through 4, thereby characterized, that the component (1) is a piston.

8. Component according to Claim 7, thereby characterized, that the area with the higher thermal load (4) is a piston bowl or a recess edge.

9. Process for production of a component of an internal combustion engine, thereby characterized, that an area (4) experiencing higher thermal loads during operation of the internal combustion engine than other areas of the component (1) is melted, and that an additive (8) is introduced into the melt pool (6) produced by melting, via which the area with the higher thermal load (4) obtains a lower thermal coefficient of expansion α_2 than the area with the lower thermal load (5).

10. Process according to Claim 9, thereby characterized, that the melting is carried out via a beam process.

11. Process according to Claim 10, thereby characterized, that for carrying out the beam process, a laser beam (7) is employed.

12. Process according to Claim 9, 10 or 11, thereby characterized, that the additive (8) is a ceramic material.